

Project Identification - PMIS 17843	
Project Title: Purchase and Install Compact Shelving to Correct Storage Deficiencies and Enhance Public Access	Project Total Cost: \$419,550.00
Park/Unit: Springfield Armory National Historic Site	Region: Northeast
States: MA	Congressional District: MA02
Old Package Number:	Reference Number: SPARC521000
Project Type: Facility , Historic , Multi-component	Financial System Package Number: SPAR 017843
Contact Person: James Roberts	Contact Phone: 413-734-6477 x. 252
Project Status - PMIS 17843	
Date Created: 06/29/98	Review Status: WASO-Reviewed on 01/31/2006
Date of Last Update: 11/10/07	Updated By: James Roberts
Project Narratives - PMIS 17843	
<p>Description</p> <p>Installing high-density compact shelving in a secure, environmentally controlled collection storage area will increase current storage by 300%. For the last seventeen years, two of the current storage areas were originally designed as temporary holding areas, one of which was in the museum basement. As part of the rehabilitation of the Arsenal Building's Heating, Ventilation and Air Conditioning Systems, under the funded PMIS 12036, a new collection storage area is being built to consolidate three extant storage areas into one. Compact shelving also addresses the need for additional visitor and educational space, generated by planned expansion of programmatic and exhibit events.</p> <p>Standard compact shelving will be purchased; however, it may be necessary to modify 25% of those shelving components that will be used for historic firearms over 48 inches in length. Proposed Compact Storage units include the following types of racking or their equivalent: * Crank-operated movable gunracks (similar to those designed by Marine Corps Museums Branch); * Stationary gunracks for the perimeter of the room; * Crank-operated wide span racks with adjustable storage levels; * Crank-operated wide span racks with adjustable storage levels to incorporate extant flat storage units; * Crank-operated wide span racks for 16 historic gunracks used at 1876 Centennial; * Crank-operated lateral Storage panels.</p> <p>Justifications</p> <p>The unique, valuable and renowned Benton Small Arms collection is the primary resource of the Springfield Armory National Historic Site and its preservation is mandated under the Inter-Agency Agreement with the U.S. Army, as well the National Park Service's mission to Preserve and Protect. It is the 2nd largest firearms collection in the world, containing the most complete Confederate Arms collection. The collection is still used as an armorer's technical reference collection. Approximately 3,000 historic Title II firearms are stored in unsafe conditions in a basement storage room, which also contains active gas lines and the gas shut off for the mechanical/heating plant. Potential</p>	

threats to preservation include water damage from leaks, gas leaks as well as delayed response time to shutting off the gas in emergencies because of the necessary security and redundant key systems. Secure storage is especially necessary for these more modern firearms produced or collected by the Springfield Armory during its final years in the 1960's. Climate control in the basement, the second floor and third floor storage rooms are not currently regulated through any HVAC system.

The firearms on the second floor are currently stored on wooden racks used in the 1876 Centennial Celebration in Philadelphia. Although these racks are museum objects themselves, they are marginally suitable for storing only the 1845-1890 model rifle/muskets for which they were designed. They are in no way suitable for storage of the post 1890 firearms. These wooden gunracks were targeted for replacement in 2001's Draft Collection Management Plan.

Measurable Results

* GPRA Ia6 (Museum Collection): Compact shelving will improve preservation by allowing consolidation of the collection into a secure, environmentally controlled area, that can be monitored effectively, a requirement under Government Performance and Results Act-Ia6. Because only one aisle is open at a time, security is enhanced. Improving storage of this unique, famous and valuable Benton Small Arms Collection is mandated under the Inter-Agency Agreement with the US Army, signed Secretaries of the Interior and Army in June, 2000. * GPRA IIb1 (Visitor Understanding): Compact shelving will improve accessibility of collection to visitors, researchers and park staff, enhancing the visitor's experience.

DOI Categories of Facilities Maintenance and Construction Needs - PMIS 17843

Project Score/Ranking — FY08 and later: 700		Project Score/Ranking — FY07 and prior: 700	
Deferred Maintenance Needs — FY07 and prior		Capital Improvement Needs — FY07 and prior	
Critical Health and Safety Deferred Maintenance Need	0%	Critical Health and Safety Capital Improvement Need	0%
Critical Resource Protection Deferred Maintenance Need	100%	Critical Resource Protection Capital Improvement Need	0%
Critical Mission Deferred Maintenance Need	0%	Other Capital Improvement Need	0%
Compliance and Other Deferred Maintenance Need	0%		
Deferred Maintenance Needs — FY08 and later		Capital Improvement Needs — FY08 and later	
Critical Health and Safety Deferred Maintenance Need	0%	Critical Health and Safety Capital Improvement Need	0%
Critical Resource Protection Deferred Maintenance Need	100%	Critical Resource Protection Capital Improvement Need	0%
Critical Mission Deferred	0%	Energy Policy, High Performance Sustainable Building Capital Improvement Need	0%

Maintenance Need		Code Compliance Capital Improvement Need	0%
Other Deferred Maintenance Need	0%	Other Capital Improvement Need	0%

Project Activities, Assets, Emphasis Areas and GPRA Goals - PMIS 17843

Activities <ul style="list-style-type: none"> • Compliance • Preservation • Stabilization • Treatment 	Assets [Primary - Special Features] <ul style="list-style-type: none"> • Museum Collection
Emphasis Areas <ul style="list-style-type: none"> • Deferred Maintenance 	GPRA Goals and Percent Values <ul style="list-style-type: none"> • WASO - Museum objects cataloged, 100%

Project Prioritization Information - PMIS 17843

Unit Priority: 2 IN FY 2006	Unit Priority Band: MEDIUM
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Project Capital Asset Accounting Determination Results Summary - PMIS 17843

Please read the following to determine required account coding.

Heritage Assets	Each account must have "HP" entered in the G/L Post Type field and "HA" entered in the PROJ GROUP field of the FFS PROJ table when they are established.
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Project Assistance Needs - PMIS 17843

Is Assistance Needed: Undefined

Related OFS Funding Requests - PMIS 17843

Request ID: 4348	Request title: Implement Resource Preservation Program
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Project Funding Component - PMIS 17843A

Funding Component Title: Purchase and Install Compact Shelving	Funding Component Request Amount: \$170,982.00
Funding Component Reference Number (Multi-purpose):	Funding Component Type: Non-recurring , Deferred
Funding Component Description: Based on Class	
Initial Planned FY: 2003	Requested Funding FY: 2004
Review Status: WASO-reviewed on 04/11/2006	Funded Amount: \$170,982.00
Date of Park Submission: 02/16/2001	Submitted By:

Upper-level Review Status: Upper Level Reviews Complete		Fee-demo Submission Number: FD00202			
Formulated FY: 2004		Funded FY: 2006			
Formulated Program: Fee Demo		Funded PWE Accounts: 1930-0601-C2C			
Formulated Funding Source: Recreational Fee Demonstration, 20%		Funded Funding Source: Recreational Fee Demonstration, 20%			
Component Cost Estimates		Related Parent FMSS Work Order Number:			
Estimated By: James Roberts		Date of Estimate: 03/15/2002			
Estimate in 2002 dollars		Class of Estimate: B			
Item	Description	Qty	Unit	Unit Cost	Item Cost
Modular Compact Storage - Platforms	Mechanically assisted platforms for historic wooden gunracks from 1876 Philadelphia Centennial	16	Each	\$1,150.00	\$18,400.00
Modular Compact Storage - Modern Vertical Gunracks, Double High.	Mobilex styled gunracks patterned after the Marine Corps Museum Branch, standard and modified for longarms	56	Each	\$437.00	\$24,472.00
Modular Compact Storage - Shelving, 6 Levels	42" wide modules, 16 inch depth QR-Shelves for Storage of Archival Materials, 6 levels high plus top plates.	15	Each	\$2,130.00	\$31,950.00
Modular Compact Storage - 4 Levels	4-D wide spannd racking on Mobilex carriages, 8ft High Frames, Four storage levels, all with 6 Ft. wide, removeable drop-in panels.	18	Each	\$1,220.00	\$21,960.00
Modular Compact Storage - 5 Levels	4-D wide spannd racking on Mobilex carriages, 8ft High Frames, five storage levels, all with 6 Ft. wide, removeable drop-in panels.	6	Each	\$2,000.00	\$12,000.00
Modular Compact Shelving - Lateral Panels	Lateral Panels modified to suspend large firearms horizontally	13	Each	\$1,970.00	\$25,610.00
Installation Costs	Installers secured by company through purchase of Modular Compact Shelving	1	Each	\$31,500.00	\$31,500.00
Freight Charge	Freight FOB Springfield Armory NHS	1	Each	\$5,090.00	\$5,090.00
Component Funding Request					\$170,982.00
Eligible Funding Sources and Funding Priorities					
Funding Source	Unit Priority at Formulation	Regional Priority	National Priority	Year Unit-Prioritized	

CRPP - Cultural Resources Preservation Program Base	3			2006
Recreational Fee Demonstration, 20%	3	20		2006
Museum Collections Preservation and Protection	3			2006
National Parks Pass, 30%	3			2006
Repair / Rehabilitation	3			2006

Component Status Report

Last Reported Status Date: 07/26/2006

Last Reported Completion Status:
Component Completed

Last Reported Planned Completion Date: 11/15/2007

Reason for change/delay from schedule: Schedule Change Due to Bidding Process, External Factors, or Priority Change

Explanation for the change/delay from project schedule:

SpaceSaver came in with a bid of \$437K, whereas funding is \$171K. Decision was made to purchase what we can, and expand the system later.

Delivery schedule was delayed by Sub-Contractor Delta Design, and the cost of steel was up significantly due to the second Iraq War.

Comments:

First Interim Report- Nov. 3, 2006

Sub-Floor and Railings: The crew began work on Tuesday, Oct. 31, 2006 by clearing the room and marking the floor. The large 12 inch support beams supported by the cast iron columns on the first and second floors were examined, and those in the storage room were measured from the outside wall. These measurements showed that the columns were 13 feet on center, but the first columns were 11 feet from the outside walls. One inch railings were applied over the support beams; whereas, one quarter inch steel plates with a width of 6 inches were installed underneath railings not located over a support beam. On the East-West axis there is 37.5 inch clearance between the compact storage system and AHU-2 supply and return ducts. There is a 10 foot clearance on the Northern end of the North-South Axis between the doors and the raised floor. Threaded screws placed every foot adjusted the railings to the same height using a laser level. Grout (plaster), capable of with standing 10,000 lbs per square inch was used as filler between the maple floor and the railings. Pre-cut interior grade plywood with leveling screws placed at one foot intervals on the square were placed between the railings, and fastened so that there was a continuous sub-floor. A one to one and one half inch threshold climbs from the floor grade to the railings over an eighteen inch gradient. *****

Second Interim Report- December 11, 2006 SpaceSaver/Systematics Project

Supervisor Sean Rogers said that the delay in finishing phase 1 was due to having enough steel to complete the flooring. On December 4, 2006 Team Leader Peter White arrived with a crew of six. Working all week, the finished the flooring for both System A and System B, and unloaded all the 32 foot carriages and shelves for system A, five of which were included in the second contract for \$248,000. Sub-Floor and Railings for System B: The crew began work on Monday, December 4, 2006 by clearing the room and marking the floor for system ?B?. The installation of this flooring system followed the same logic and progression as that of System A. For a description, please see First Interim Report. Tile Flooring for Systems A & B: Composite tile was laid over mastic. Metal strip edging secures the edges of the tile to the maple flooring to prevent tripping. To accommodate the different levels between the maple flooring and the raised platform, an eighteen inch plywood spacer with a 3 inch slope at 20 degrees was inserted on either side of the platform. Tile was warmed using a propane torch, bending it to accommodate the slope. System A is 32 feet wide and System B is 20 feet wide. Carriages and Shelves for System A: Six 32 foot carriages under the original contract and five 32 foot carriages under the modification contract arrived on Wednesday, December 6, 2006. Shelving, supports and end panels arrived on Thursday, December 7, 2006. On Monday, December 11, 2006, the SpaceSaver Team began to assemble the units for System A. The shelves, which are adjustable, were installed at 12? intervals to accommodate the Title II arms from the Basement Storage Room. Additional cross support beams were installed below each shelf. Invoice and First Partial Payment: COTR James Roberts received the invoice from CO Marcia Dolce with instructions to sign and date for the first partial payment. After consulting with CO Dolce, Mr. Roberts authorized \$113,000 to be paid for two thirds completion of the original contract. Carriages and shelves for System B should arrive tomorrow. Project Coordinator Sean Rogers said that he would check with sub-contractor Delta Design for an estimated arrival date for the cabinets.

Last Reported Account Status as of 07/26/2006:

Account	Amount Obligated	Revised Estimate
1930-0601-C2C	\$170,982.00	\$438,000.00

Component Completion Report

Component Account Costs By Budget Object Class (based on AFS3):

Account	Personal Service	Travel	Contract	Supply	Equipment	Other	Total By Account
1930-0601-C2C	\$0.00	\$0.00	\$170,982.00	\$0.00	\$0.00	\$0.00	\$170,982.00
Total Component Account Cost							\$170,982.00

Component Start Date: 05/05/2006

Component Completion Date:
12/11/2006

Completion Report Date: 11/10/2007

Created By:

Change in Condition: Non-Existant TO Good

Report Last Updated By: James Roberts on 11/10/2007

As Built Drawing or Report Number:

As Built Drawing or Report Title:

Location of Original As Built Drawing or Report:	As Built Drawing or Report Author:				
Superintendent Approval Date: 11/10/2007	Superintendent Certification: /s/JDR for Michael Quijano-West				
Brief Quantified Description of Final Product/Outcome:					
Project Funding Component - PMIS 17843B					
Funding Component Title: Inter-agency Agreement with the US Army - CWIP			Funding Component Request Amount: \$248,568.00		
Funding Component Reference Number (Multi-purpose): 1930-6699-454			Funding Component Type: Non-recurring , Not Deferred		
Funding Component Description: Additional funding to complete the Purchase Compact Shelving project that was partially funded (170,982) with 20% Fee Demo funds. All funding occurred in fy 2006.					
Initial Planned FY: 2006			Requested Funding FY: 2006		
Review Status: Region-reviewed on 08/23/2007			Funded Amount: \$248,568.00		
Date of Park Submission: 08/22/2007			Submitted By: Michael Quijano-West, Michael Quijano, Michael_Quijano@Nps.Gov ()		
Upper-level Review Status:			Fee-demo Submission Number:		
Formulated FY: 2006			Funded FY: 2006		
Formulated Program: Other Program			Funded PWE Accounts: 1930-6699-454		
Formulated Funding Source: Non-NPS Fund Sources			Funded Funding Source: Non-NPS Fund Sources		
Component Cost Estimates			Related Parent FMSS Work Order Number:		
Estimated By: Maryellen Cowles, Mary_Cowles@Nps.Gov, Mary Cowles			Date of Estimate: 08/21/2007		
Estimate in 2007 dollars			Class of Estimate: A		
Item	Description	Qty	Unit	Unit Cost	Item Cost
Purchase Compact Shelving - US Army Component	Inter-agency agreement with the US Army to fund the remaining portion of the project in fy2006. The project description remains the same.	1	Lump	\$248,568.00	\$248,568.00
Component Funding Request					\$248,568.00
Eligible Funding Sources and Funding Priorities					

Funding Source	Unit Priority at Formulation	Regional Priority	National Priority	Year Unit-Prioritized
Non-NPS Fund Sources	3			2006

Component Status Report

Last Reported Status Date: 11/10/2007

Last Reported Completion Status: On-Site Work Started

Last Reported Planned Completion Date: 11/15/2007

Reason for change/delay from schedule: Schedule Change Due to Bidding Process, External Factors, or Priority Change

Explanation for the change/delay from project schedule:

Delay due to delivery from sub-contractor Delta Design and the increase price of steel due to the second Iraqi War.

Comments:

Third Interim Report- March 9, 2007

Work began on Monday, March 5, 2007 with SpaceSaver/Systematics Project Supervisor Tom Mulvay and Team Leader Joshua Boyd. On Tuesday, March 6, COTR James Roberts, Sales Representative Sean Rogers and Mr. Mulvay inspected the first cabinet delivery. Mr. Roberts remarked that 1) the ends of the cabinets should have been flat instead of indented, as in the original design specifications and concept drawings, and 2) the barrel support bars appeared to be too far forward in the cabinet. Both Mr. Mulvay and Mr. Rogers agreed, and Mr. Rogers said that he would contact the company regarding 1) End-Caps and 2) a template for re-drilling the holes in the cabinet's panels. Mr. Mulvay also recognized that Delta Design had shipped the cabinets packed perpendicular to the length of the truck, making it difficult to off load them with the fork lift. SpaceSaver rejected one cabinet as too damaged. On Wednesday, the team lifted the first 24 cabinets to rest on the previously installed shelving components. On Friday, the team finished mounting the cabinets to the shelving, before leaving the work site for the weekend. System A: By March 9, 2007, all carriages with shelving on System A were installed, and 48 long-arm cabinets were mounted and installed on top of the shelving. System B: By March 9, 2007 the sub-floor, railings and floor tiles were installed and all the carriages were assembled and installed on the railings.

Fourth Interim Report- September, 2007

Work began on Tuesday, September 11, 2007 with SpaceSaver/Systematics Project Supervisor Tom Mulvay and Team Leaders Ernest Chamberlain and Jose Abara , who set up the remaining slat-wall for System A and replaced cabinets from sub-contractor Delta Design in System A and System B. The six month postponement to SPAR's project came from the sub-contractor's production lag for replacement of damaged cabinets, as well as the need to schedule a lull to lift the new cabinets into the 3rd floor. On Wednesday, September 19 COTR James Roberts, Sales Representative Sean Rogers and Installation Supervisor Mr. Tom Mulvay inspected

the project with Superintendent Quijano-West who accompanied the group. Both SpaceSaver representatives pointed out the scratches on the endcaps of the System A carriages, which presumably were made by ladders from the HVAC contractors, since they had been installing the duct work and the new lights after the SpaceSaver crew had installed the endcaps. Mr. Roberts pointed out the split or popped seams (see photograph), and Mr. Mulvey reassured the team that many of those seams could be stabilized with adhesive putty. He also stated that the dented cabinets could either be straightened with extra bolts or hammered straight, and all repairs could be touched up with paint. One major replacement of a cabinet in System B, Carriage 2, West side was found which was dented beyond repair, and it needs to be replaced. Superintendent Quijano-West asked Conservator David Arnold to take photographs of all cabinets, recording any apparent damages and providing documentation. There are 266 photographs documenting damages to the shelves or cabinets. The following is a punch list of items that need either to be replaced, fixed or repainted: 1) popped seams; 2) dented frames; 3) concave shelves (System B); 4) bolts which need to be clipped and filed; 5) one complete cabinet replacement; 6) jig for placing barrel bars across the cabinets and 7) 36 reinforced angle brackets ((@ \$20/bracket or \$700.00).

As COTR, Mr. Roberts recommends withholding 8 % of the remaining \$124, 278.37 or about \$10,000.00. This sum equals about 1 cabinet plus the labor for delivery and correcting the above mentioned deficiencies.

Last Reported Account Status as of 11/10/2007:

Account	Amount Obligated	Revised Estimate
1930-6699-454	\$248,560.00	\$248,560.00

Component Completion Report

Component Account Costs By Budget Object Class (based on AFS3):

Account	Personal Service	Travel	Contract	Supply	Equipment	Other	Total By Account
1930-6699-454	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total Component Account Cost							\$0.00

Component Start Date: 01/01/2007

Component Completion Date:

Completion Report Date:

Created By:

Change in Condition:

Report Last Updated By:

As Built Drawing or Report Number:

As Built Drawing or Report Title:

Location of Original As Built Drawing or Report:

As Built Drawing or Report Author:

Superintendent Approval Date:

Superintendent Certification:

Brief Quantified Description of Final Product/Outcome: